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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,178	09/29/2003	Mathilde Benveniste	630-039US	1601

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EXAMINER	
AHMED, SALMAN	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/674,178	BENVENISTE, MATHILDE	
	Examiner	Art Unit	
	Salman Ahmed	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3/27/06(RCE)*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-7,9-12,14-18 and 20-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6,7,12,17 and 18* is/are rejected.

7)☒ Claim(s) *3-5,9-11,14-16 and 20-23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1, 3-7, 9-12, 14-18, 20-23 are pending.

Claims 2, 8, 13 and 19 are cancelled by the applicant.

Claims 1, 6, 7, 12, 17 and 18 are rejected.

Claims 3-5, 9-11, 14-16, 20-23 are objected.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1, 7, 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fulthorp et al. (US PAT 5737330), hereinafter referred to as Fulthorp, in view of Ho et al. (US PAT 2002/0198244), here in after referred to as Ho.

In regards to claims 1, 7, 12 and 18 Fulthorp teaches an apparatus (column 2 lines 26-46, a base station) having a method comprising: (a) receiving a polling request (column 2 lines 26-46, a poll request) that specifies a first temporal period (column 2 lines 61-62, the poll request signal from the remote radio unit may contain data indicative of a communications interval for each of the remote radio units) for a plurality of expected future transmissions; (b) transmitting a plurality of polls to the sender of

polling request (column 2 lines 26-46, transmits a poll signal to at least some of the remote radio units); (c) receiving a response to at least one of plurality of polls (column 2 lines 26-46, each of the remote radio units will respond to the poll signal); and (d) estimating a first temporal offset (column 12 lines 39-50, the base station must determine which remote units are to be polled in the current cycle (temporal offset)) for first temporal period (column 2 lines 26-46, communications interval) based on at least one of: (i) when response was received, and (ii) when at least one of plurality of polls was transmitted (column 2 lines 26-46, column 2 lines 61-62 and column 12 lines 39-50, a system having a method comprising: a plurality of remote radio units each having transmit and receive capability. Each of the remote units operates in a first mode to transmit a poll request signal to initiate communications and a second mode to transmit data. A base station also having transmit and receive capability receives a plurality of respective poll requests from the plurality of remote radio units and transmits a poll signal to at least some of the remote radio units. The poll signal includes a poll response sequence indicative of a particular time frame in which each of the remote radio units will respond to the poll signal. A poll detection unit in each of the remote radio units detects the poll signal. A control unit in each of the remote units controls transmission of the data in the particular time frame such that each of the remote radio units transmits data in the second mode in the time frame corresponding to the response sequence in the detected poll signal. The poll request signal from the remote radio unit may contain data indicative of a communications interval for each of the remote radio units. The polling table is checked to see if any remote unit needs to be

polled. It should be noted that each remote unit has previously requested it's own polling interval. If any remote unit needs to be polled, the base station initiates the polling process. The base station must determine which remote units are to be polled in the current cycle. Some remote units may have requested a long polling interval while other remote units may have requested a short polling interval); (e) establishing a polling schedule (column 12 lines 39-50, polling table) based on first temporal period (column 2 lines 26-46, communications interval) and first temporal offset (column 12 lines 39-50, polling cycle).

In regards to claims 1, 7, 12 and 18 Fulthorp does not explicitly teach the temporal offset for the temporal period reduces a delay between when a station queues a frame and when a station transmits a frame.

In regards to claims 1, 7, 12 and 18 Ho in the same field of endeavor teaches the use of a reservation-polling interval in a wireless network to reduce the potential for collisions and increase network throughput (page 1 section 0004).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Fulthorp's system/method by incorporating the teachings of the advantage of reservation-polling in a wireless network as disclosed by Ho. The motivation is that (as suggested by Ho, page 1 section 0004) the use of a reservation-polling interval in a wireless network to reduce the potential for collisions and increase network throughput.

In regards to claims 12 and 18 Fulthorp teaches (column 6 lines 24-29) the base station illustrated in FIG. 3A includes a transmitter and receiver (Transreceiver), which are coupled to an antenna. The base station also includes a central processing unit.

In regards to claims 7 Fulthorp teaches (d) transmitting a second poll to said sender of said polling request, (e) receiving a second response to second poll (column 2, lines 64-67, column 10 lines 41-44, column 11 lines 65-68 and column 12 line1, the base station periodically transmits the poll signal and the poll sequence is altered in each of the periodically transmitted poll signals in response to the communication data interval for each of the plurality of remote radio units. The base station works its way through its polling lists until all data has been received correctly. The base station will then wait for the next polling interval before repeating the process again).

In regards to claim 18 Fulthorp teaches (iv) transmitting a second poll to sender of polling request, (v) receiving a second response to second poll; estimating a first temporal offset for first temporal period based on at least one of: (i) when second response was received, and (ii) when second poll was transmitted (column 2, lines 64-67, column 10 lines 41-44, column 11 lines 65-68 and column 12 line1, the base station periodically transmits the poll signal and the poll sequence is altered in each of the periodically transmitted poll signals in response to the communication data interval for each of the plurality of remote radio units. The base station works its way through its polling lists until all data has been received correctly. The base station will then wait for the next polling interval before repeating the process again).

2. Claims 6 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fulthorp in view of Ho, in view of Kedar et al. (US PAT 4750171), hereinafter referred to as Kedar.

In regards to claims 6 and 17, Fulthorp in view of Ho teaches communication method of transmitting and receiving frames as described in the rejections of claims 1 and 12 above.

In regards to claims 6 and 17, Fulthorp in view of Ho does not teach transmit and receive happening over shared channel.

Kedar in the same field of endeavor teaches (column 14 lines 34-37) in the shared timeslot channel concept all endpoints that use a same-shared timeslot channel transmit and receive along this same-shared timeslot channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Fulthorp in view of Ho's system/method by incorporating the teachings of shared communication channel by Kedar. The motivation is that, such sharing makes more efficient use of available bandwidth.

Allowable Subject Matter

2. Claims 3-5, 9-11, 14-16, 20-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

3. Applicant's arguments see pages 9-13 of the Remarks section, filed 3/27/2006, with respect to the rejections of claim 1 and 12 have been fully considered and they are not persuasive. Applicant argues Fulthorp does not disclose or suggest estimating a first temporal offset for said first temporal period, and Fulthorp does not disclose estimating a first temporal offset for the temporal period based on at least one of (i) when said response was received; and tii) when at least one of said plurality of polls was transmitted. Applicant adds if the Examiner is to maintain this rejection he is asked to specifically point out where in Fulthorp the temporal period is recited and further where the temporal offset is disclosed. However, Examiner respectfully disagrees with the assertion that Fulthorp does not disclose or suggest estimating a first temporal offset for said first temporal period, and Fulthorp does not disclose estimating a first temporal offset for the temporal period based on at least one of (i) when said response was received; and tii) when at least one of said plurality of polls was transmitted. The present claim language is broad and in view of the broadest reasonable interpretation of this language, as indicated in the previous office action, Fulthorp teaches (column 2 lines 61-62) the poll request signal from the remote radio unit may contain data indicative of a communications interval for each of the remote radio units. Fulthrop further teaches (column 7 lines 28-31) base station 2 in cell C5 might poll at a 30 second interval starting at offset 10 seconds in each 30 second interval with a duration of 5 seconds. Another base station 2 in cell C6 could then poll at a 30 second interval starting at offset 0 seconds in each 30 second interval with a duration of 5 seconds.

Fulthrop further teaches (column 10 lines 7-9) the base station 2 will schedule (temporal offset) the remote unit 6 in its TDMA polling interval as often as required to meet the service level requested by the remote unit. Fulthorp further teaches (column 12 lines 39-50) the polling table is checked to see if any remote unit needs to be polled. It should be noted that each remote unit has previously requested it's own polling interval. If any remote unit needs to be polled, the base station initiates the polling process. The base station must determine which remote units are to be polled in the current cycle (temporal offset). Some remote units may have requested a long polling interval while other remote units may have requested a short polling interval. The present claim language is broad and in view of the broadest reasonable interpretation of this language, the examiner respectfully disagrees with the applicant.

Applicant further argues, "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." Examiner agrees with this assertion.

Applicant's arguments with respect to the rejections of claims 3-4 and 14-15 have been fully considered. Applicant's amendment to claims 3 and 14 necessitated further examination of the claims on their merits as cited in this office action.

Applicant's arguments with respect to the rejection of claims 6 and 17 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive. Applicant argues that claims 6 and 17 depend from claims 1 or 12 and are believed allowable as they depend from a base claim that is believed allowable. However, Examiner respectfully disagrees with this assertion for the reasons cited above.

Applicant's arguments with respect to the rejection of claims 5 and 16 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive. Applicant's amendment to claims 5 and 16 necessitated further examination of the claims on their merits as cited in this office action.

Applicant's arguments with respect to the rejection of claims 7-11 and 18-20 under 35 U.S.C. 103(a) have been fully considered. Applicant's amendment to claims 7, 9, 11 and 18 necessitated further examination of the claims on their merits as cited in this office action.

Newly added clams 21-23 have been examined on their merits.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salman Ahmed whose telephone number is (571)272-8307. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 2616

SA
04/12/2006

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